



## Midterm Presentation



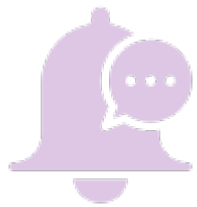
# "Mail AI"

## AI-based Mail Assistant

.....  
Team E: Yosep Kim, Dohyeon Boo, Sumin Lim, Miseo Jeong

# ✦ Agenda ✦

01



## Introduction & Team Role

- 1.1 Objective
- 1.2 Milestone
- 1.3 Roles of Each Member

02



## Design & Implementations

- 2.1 Design: UX/UI
- 2.2 AI Model
- 2.3 Implementation

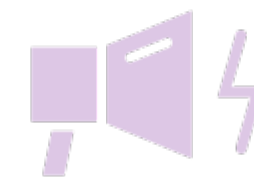
03



## Challenges & Limitations

- 3.1 FE + BE
- 3.2 UI/UX + FE
- 3.3 DB & Auth
- 3.4 SSL/TLS & Proxy

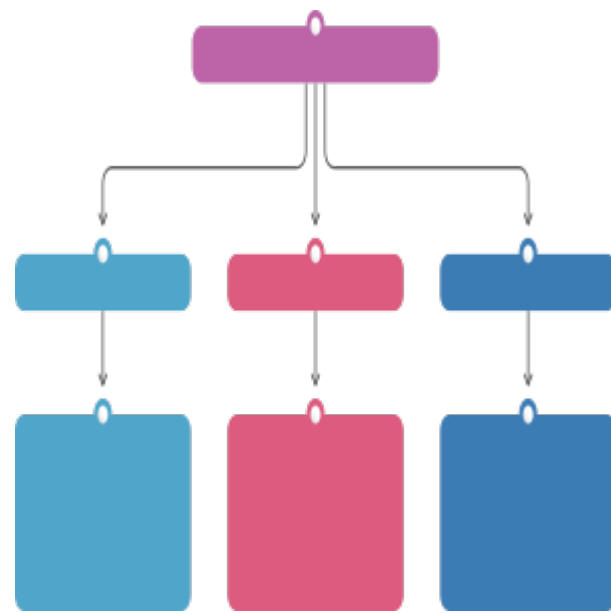
04



## Further Mileston & Conclusion

- 4.1 Further Milestone
- 4.2 Conclusion
- 4.3 Q&A

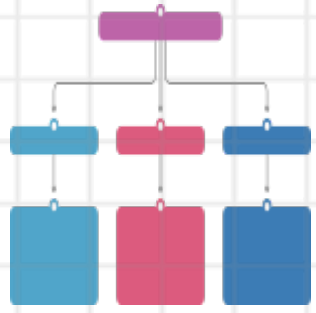
# 01 Introduction & Team Role



**1.1 Objectives**

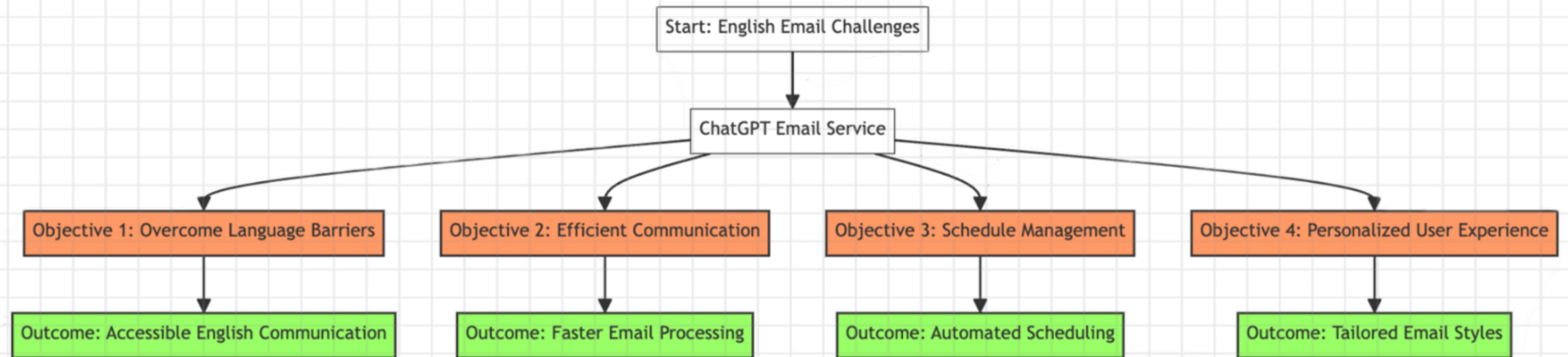
**1.2 Milestone**

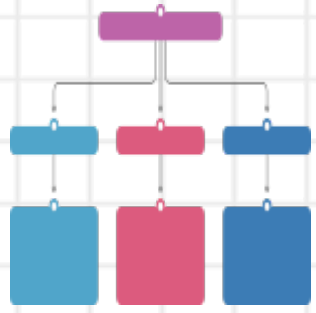
**1.3 Role of Each Member**



## 01 Introduction & Team Role

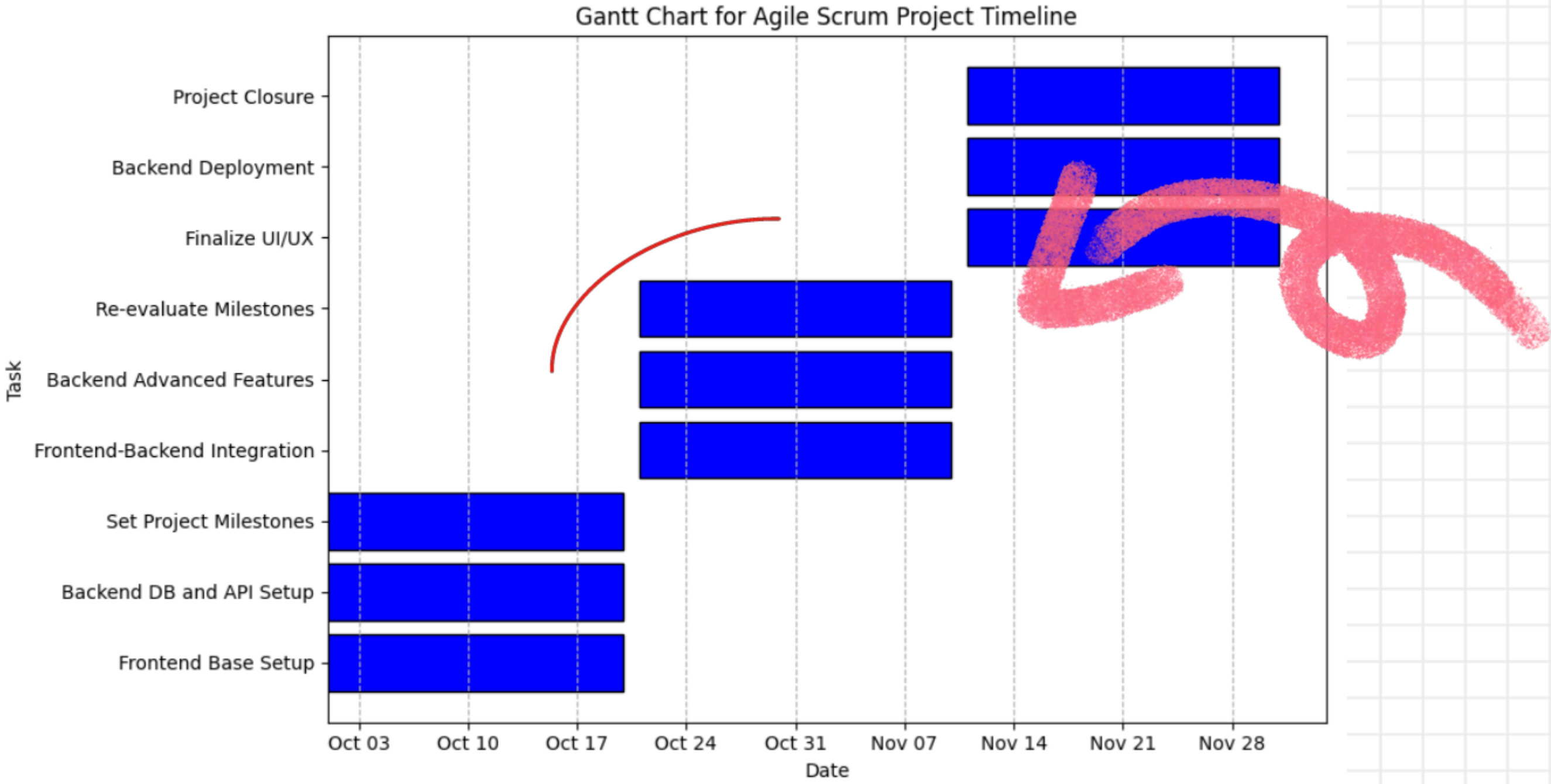
# 1.1 Objectives

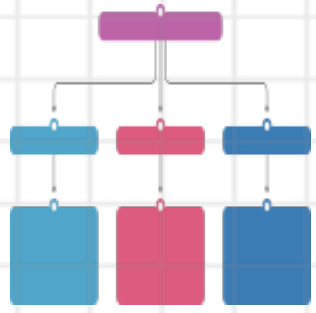




01 Introduction & Team Role

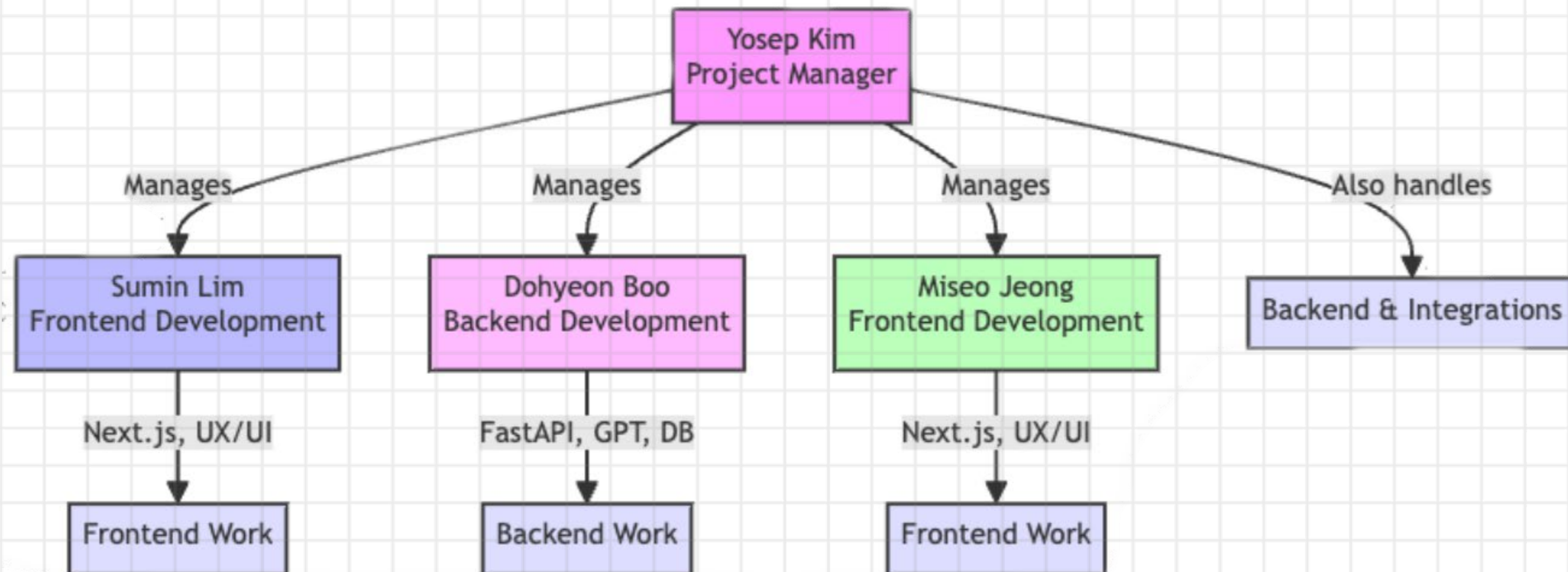
# 1.2 Milestone





01 Introduction & Team Role

# 1.3 Roles of Each Member



# 02 Design & Implementation



2.1 Design: UX/UI

2.2 AI Model

2.3 Implementation





## 02 Design & Implementation

# 2.1 Design: UX/UI



### Mail-GPT

로그인하세요.

아이디 또는 Email  
아이디 또는 이메일 주소를 입력하세요.

비밀번호  
비밀번호를 입력하세요.

☐ 로그인 유지하기

로그인

회원이 아니신가요? [회원 가입](#)

계정을 만들어보세요.

아이디  
아이디를 입력하세요.

Email  
이메일 주소를 입력하세요.

비밀번호  
비밀번호를 입력하세요.

비밀번호 확인  
비밀번호를 재입력하세요.

인증 번호 전송

인증 번호 입력  
인증번호를 입력하세요.

☒ I hereby accept the [T&C](#) of Liquid

계정 생성





## 02 Design & Implementation

# 2.1 Design: UX/UI

메일을 전송해보세요.

수신인 이름을 입력하세요.

수신인 이메일을 입력하세요.

수신인과의 관계를 선택하세요.

메일 작성 스타일을 선택하세요.

핵심 내용 작성

작성 요청

이메일 내용 확인

프롬프트 확인



생성된 이메일 확인 및 수정



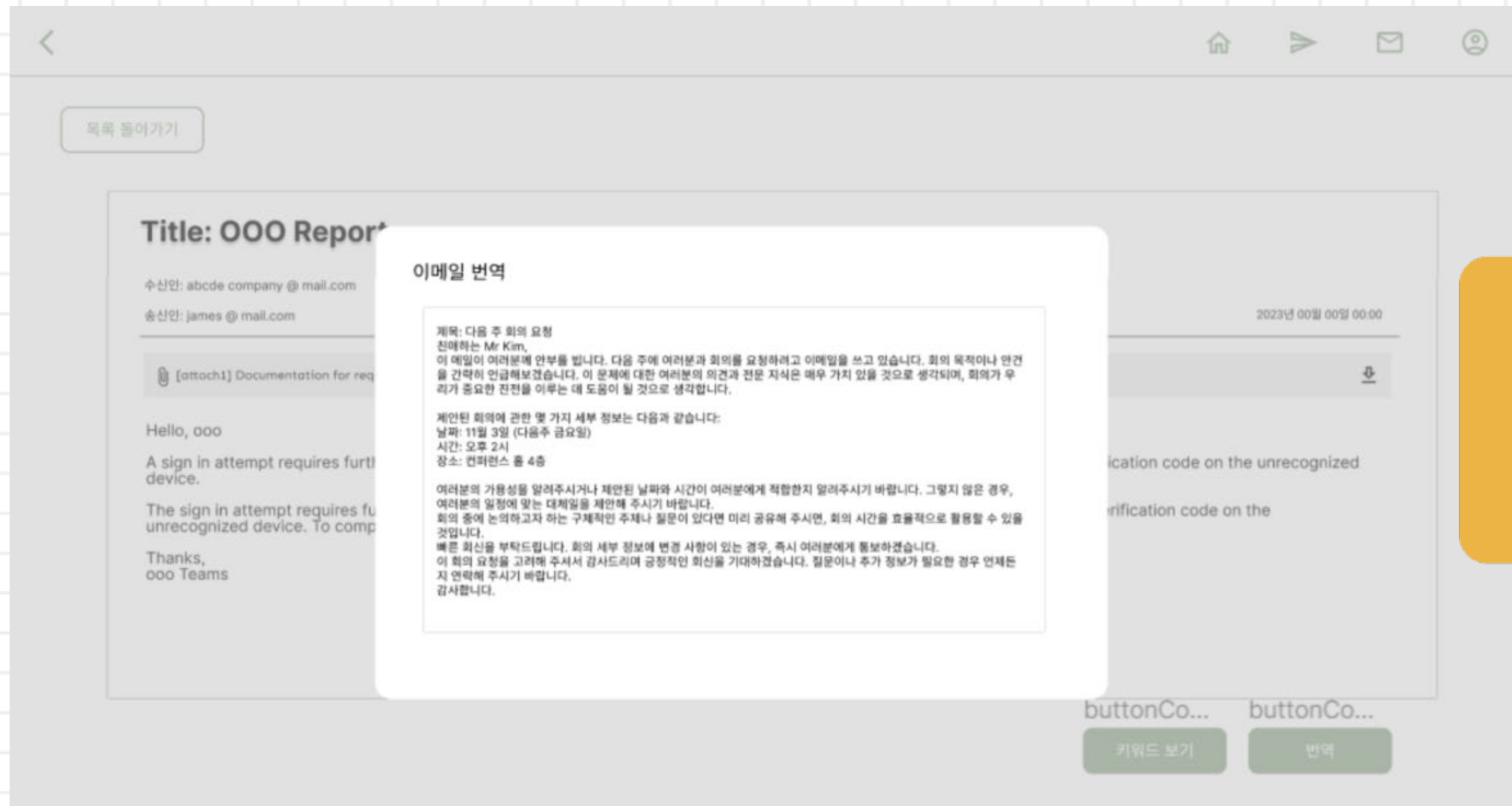
취소

전송



## 02 Design & Implementation

# 2.1 Design: UX/UI

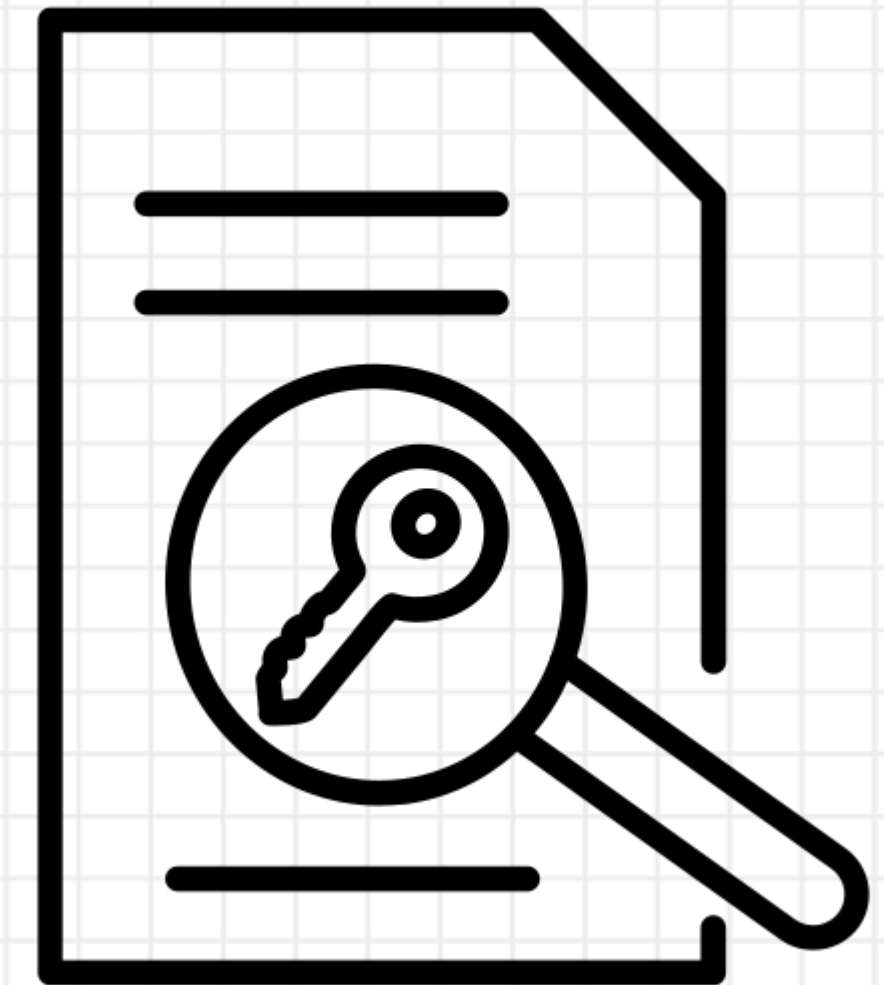
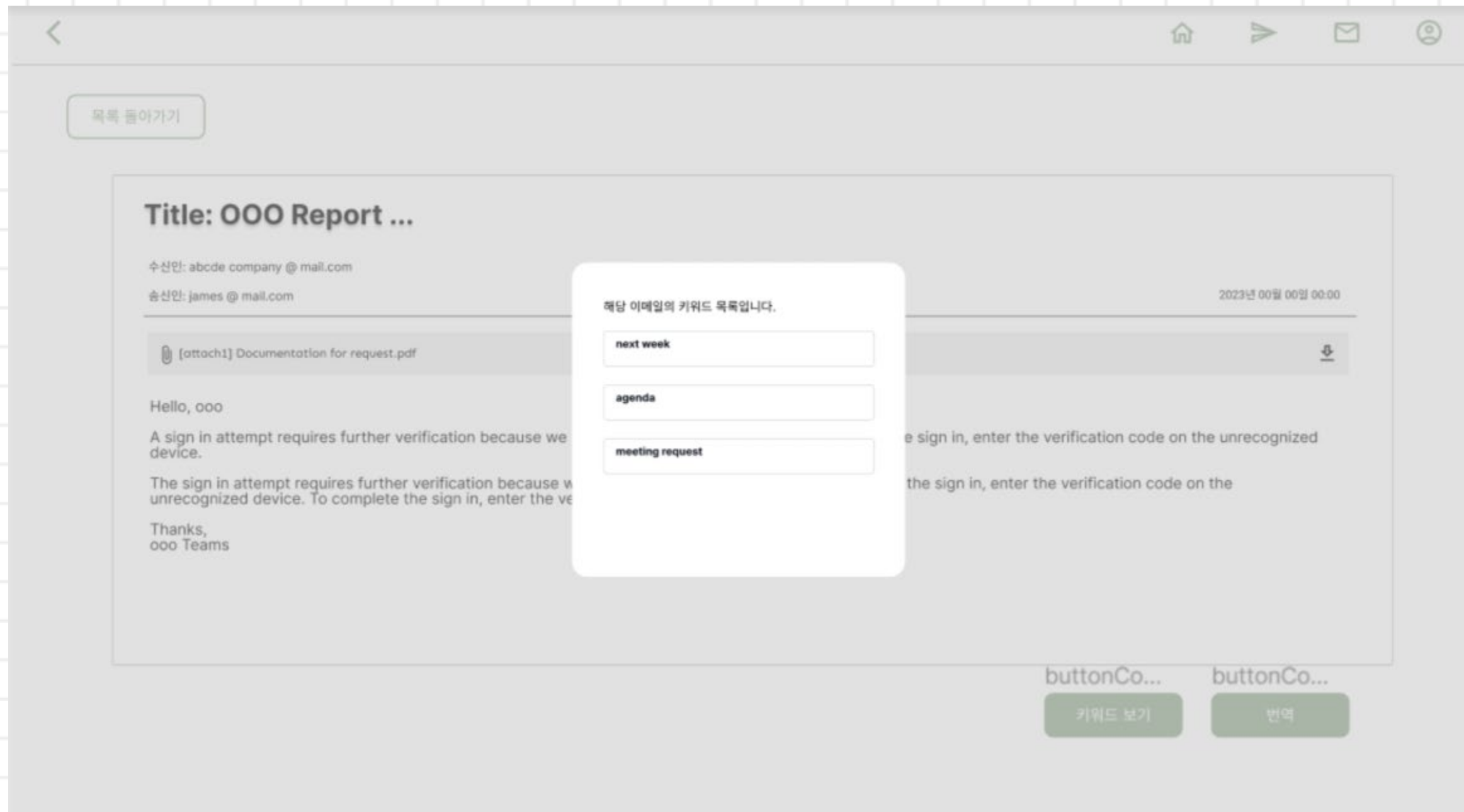




02 Design & Implementation

## 2.1 Design: UX/UI

# Each Email

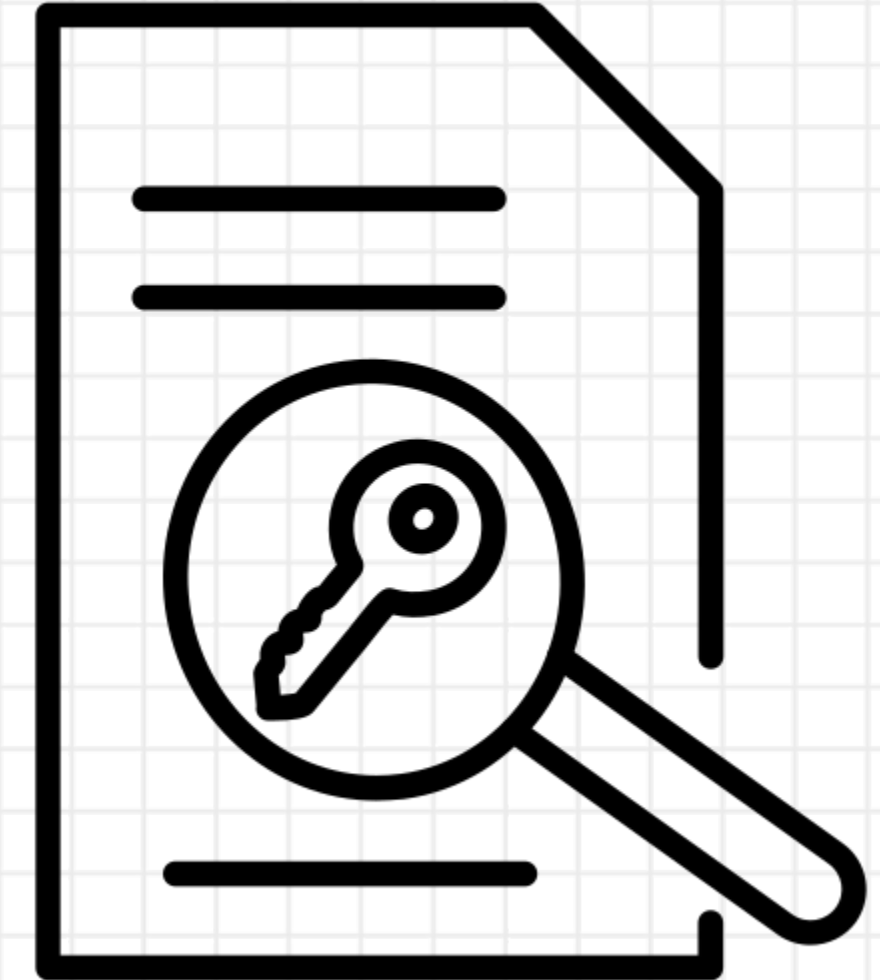
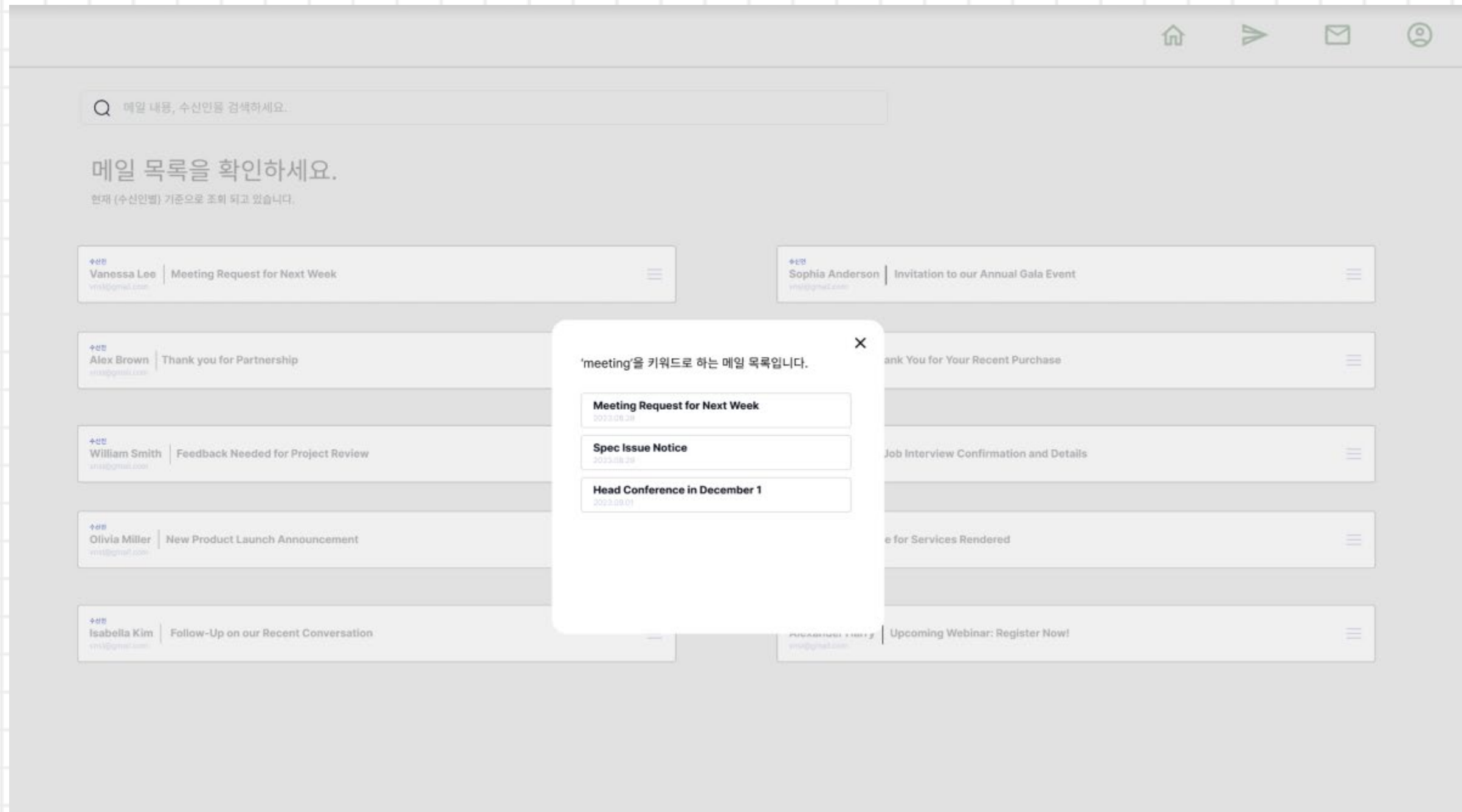




02 Design & Implementation

## 2.1 Design: UX/UI

## Email List





## 02 Design & Implementation

# 2.1 Design: UX/UI Auto Scheduler

일정을 확인하세요.

받은 이메일을 바탕으로 AI가 자동으로 일정을 생성해줍니다.

Left Content

November 2023

Mon	Tue	Wed	Thur	Fri	Sat	Sun
01 Event Name 08:00 +2 More	02 Event Name 08:00 +2 More	03 Event Name 08:00 +2 More	04 Event Name 08:00 +2 More	05 Event Name 08:00 +2 More	06 Event Name 08:00 +2 More	07 Event Name 08:00 +2 More
08 Event Name 08:00 +2 More	09 Event Name 08:00 +2 More	10 Event Name 08:00 +2 More	11 Event Name 08:00 +2 More	12 Event Name 08:00 +2 More	13 Event Name 08:00 +2 More	14 Event Name 08:00 +2 More
15 Event Name 08:00 +2 More	16 Event Name 08:00 +2 More	17 Event Name 08:00 +2 More	18 Event Name 08:00 +2 More	19 Event Name 08:00 +2 More	20 Event Name 08:00 +2 More	21 Event Name 08:00 +2 More
22 Event Name 08:00 +2 More	23 Event Name 08:00 +2 More	24 Event Name 08:00 +2 More	25 Event Name 08:00 +2 More	26 Event Name 08:00 +2 More	27 Event Name 08:00 +2 More	28 Event Name 08:00 +2 More
29 Event Name 08:00 +2 More	30 Event Name 08:00 +2 More	31 Event Name 08:00 +2 More	01 Event Name 08:00 +2 More	02 Event Name 08:00 +2 More	03 Event Name 08:00 +2 More	04 Event Name 08:00 +2 More

Nov. 3th, 2023

이벤트명: Meeting

키워드: next week, agenda, meeting request

수신인: abcde company @ mail.com

Invoice # 546  
Invoice Date January 31, 2013  
Amount Due £283.50 GBP

Billing As of July 31, 2016

Invoice No: 480840  
Invoice Date: 13/04/2014  
Due Date: 23/04/2014

----- Forwarded message -----  
From: Viking <info@vikingdirect.com>  
Date: Tue, Jan 13, 2015 at 3:45 PM  
Subject: Receipt of your order.

Account number	Invoice number	Invoice date
381370981	123150043	05 May 13

Consultant  
TINA HAMBLIN  
Departure Date  
FRI 01 FEB '13  
This itinerary was generated at  
10:27:15 on FRI 25 JAN '13

Materials  
Science Text



Neural  
Network



Named Entity  
Recognition







02 Design & Implementation

## 2.2 AI Model

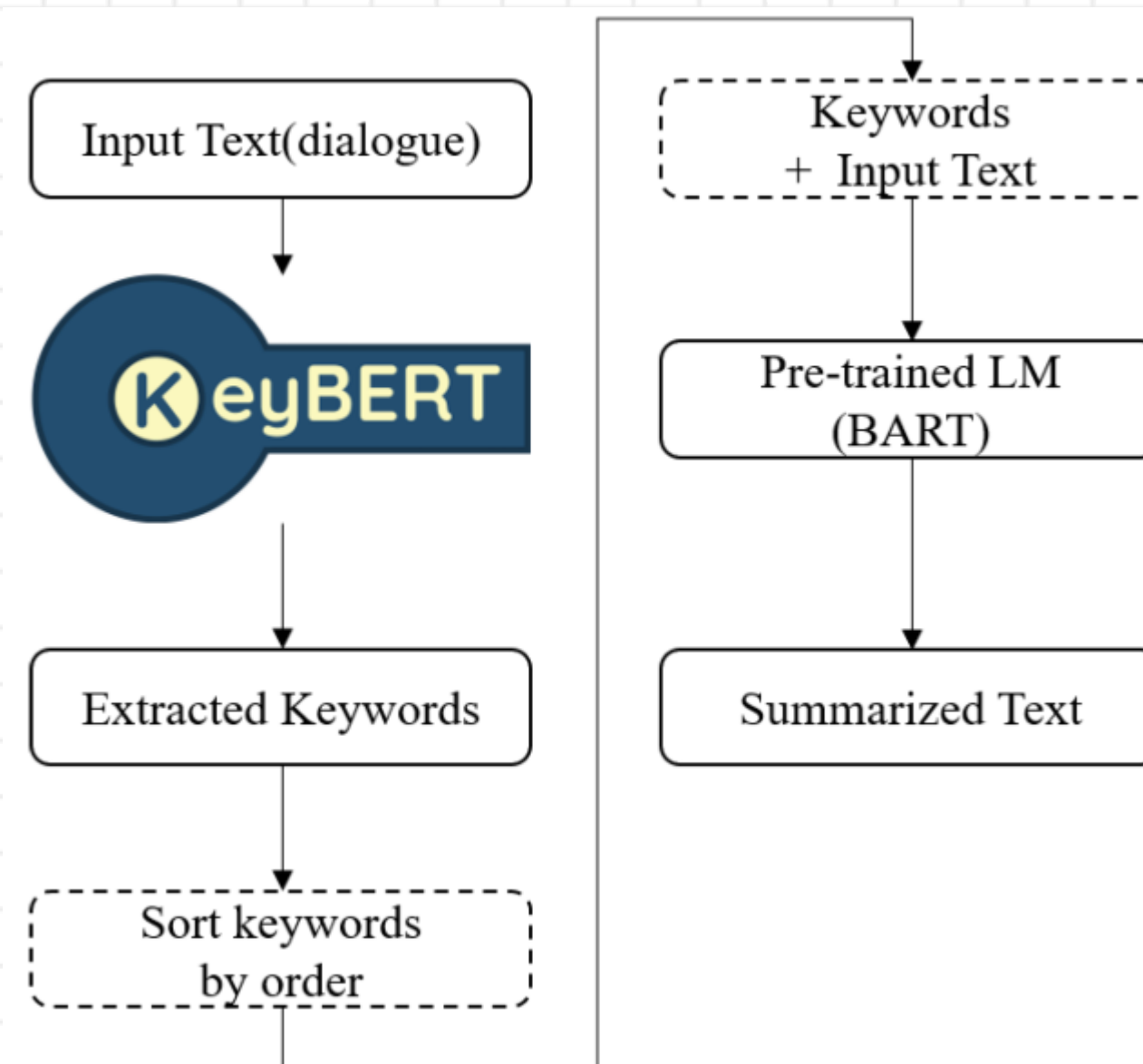
### Keybert: Keyword Extraction

```
from keybert import KeyBERT

email_content = """
Subject: Meeting Schedule Confirmation
...
"""

kw_model = KeyBERT()
keywords = kw_model.extract_keywords(
    email_content, keyphrase_ngram_range=(2, 4), use_maxsum=True, top_n=5
)

print(keywords)
# Output
[('productive meeting questions concerns', 0.5441), ...]
```



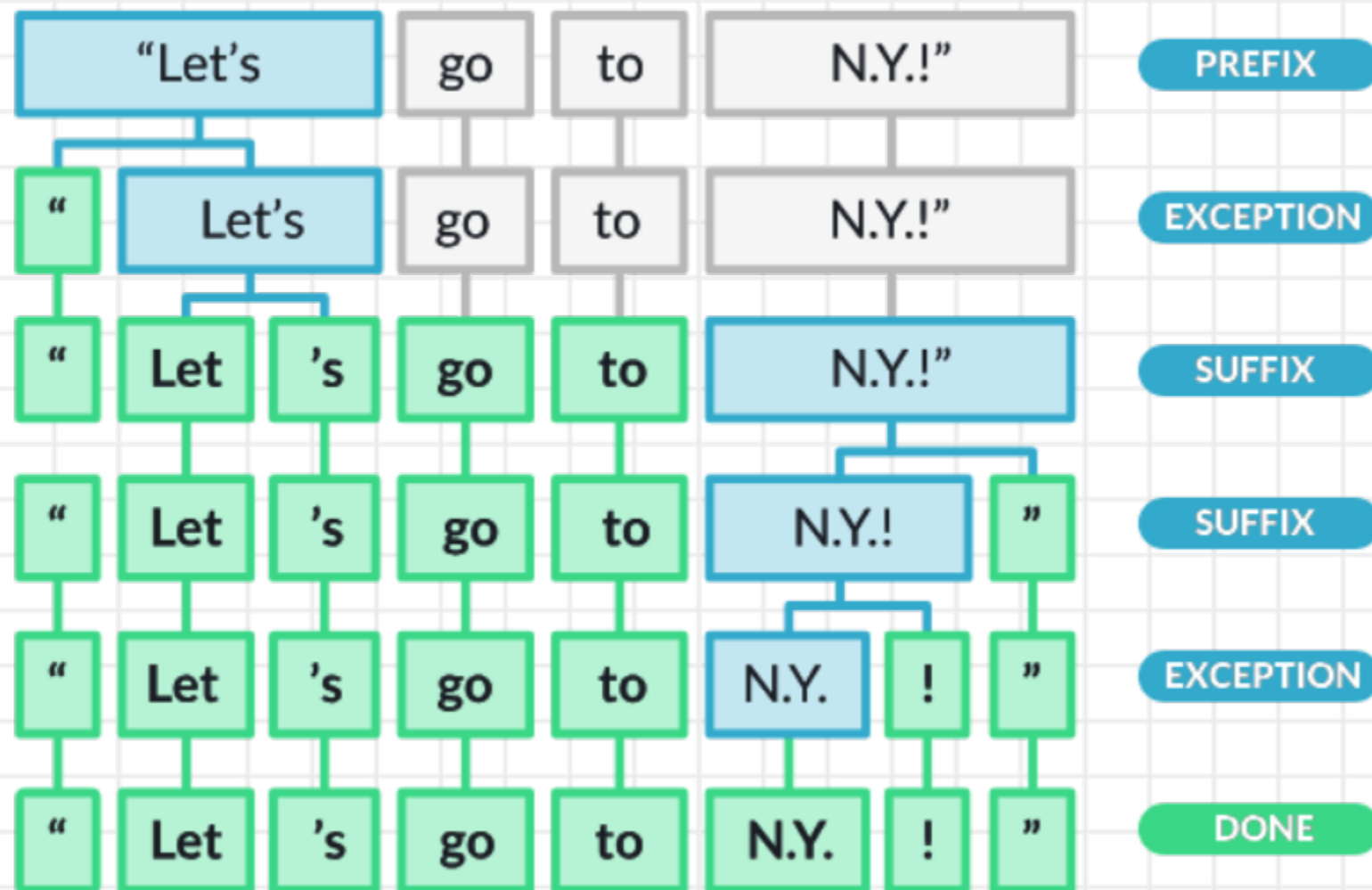




02 Design & Implementation

## 2.2 AI Model

### Spacy: Date & Time Extraction



```
# Email content
Subject: Meeting Schedule Confirmation
...

# spaCy code
import spacy
from spacy.matcher import Matcher
...

nlp = spacy.load("en_core_web_sm")
...

@Language.component("custom_date_component")
def custom_date_component(doc):
    ...

nlp.add_pipe("custom_date_component", before="parser")

text = """
Subject: Meeting Schedule Confirmation
...
"""

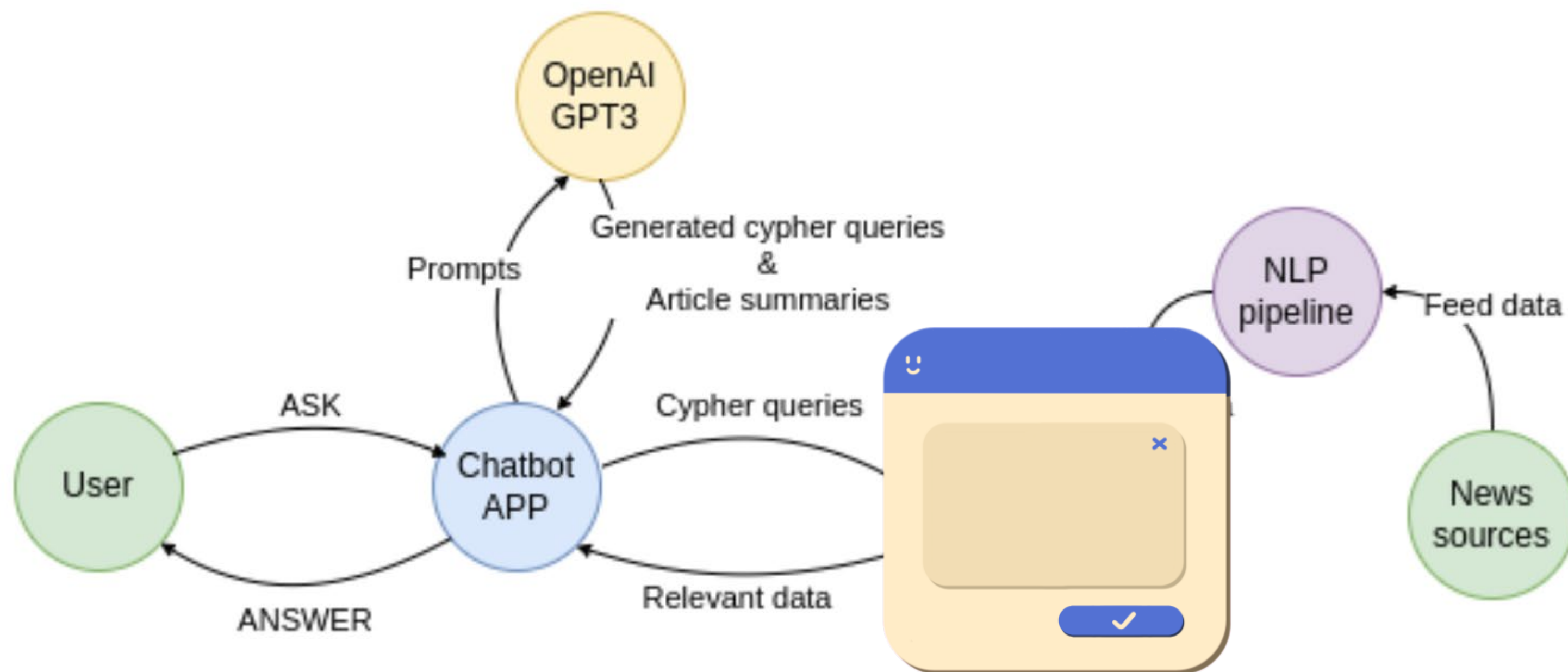
doc = nlp(text)
for ent in doc.ents:
    if ent.label_ == "DATE":
        print("Date:", ent.text)

# Parsing to a Date object
from datetime import datetime
date_string = "Monday, November 18th, 2021"
date_object = datetime.strptime(date_string, "%A, %B %dth, %Y").date()
```



02 Design & Implementation

## 2.2 AI Model



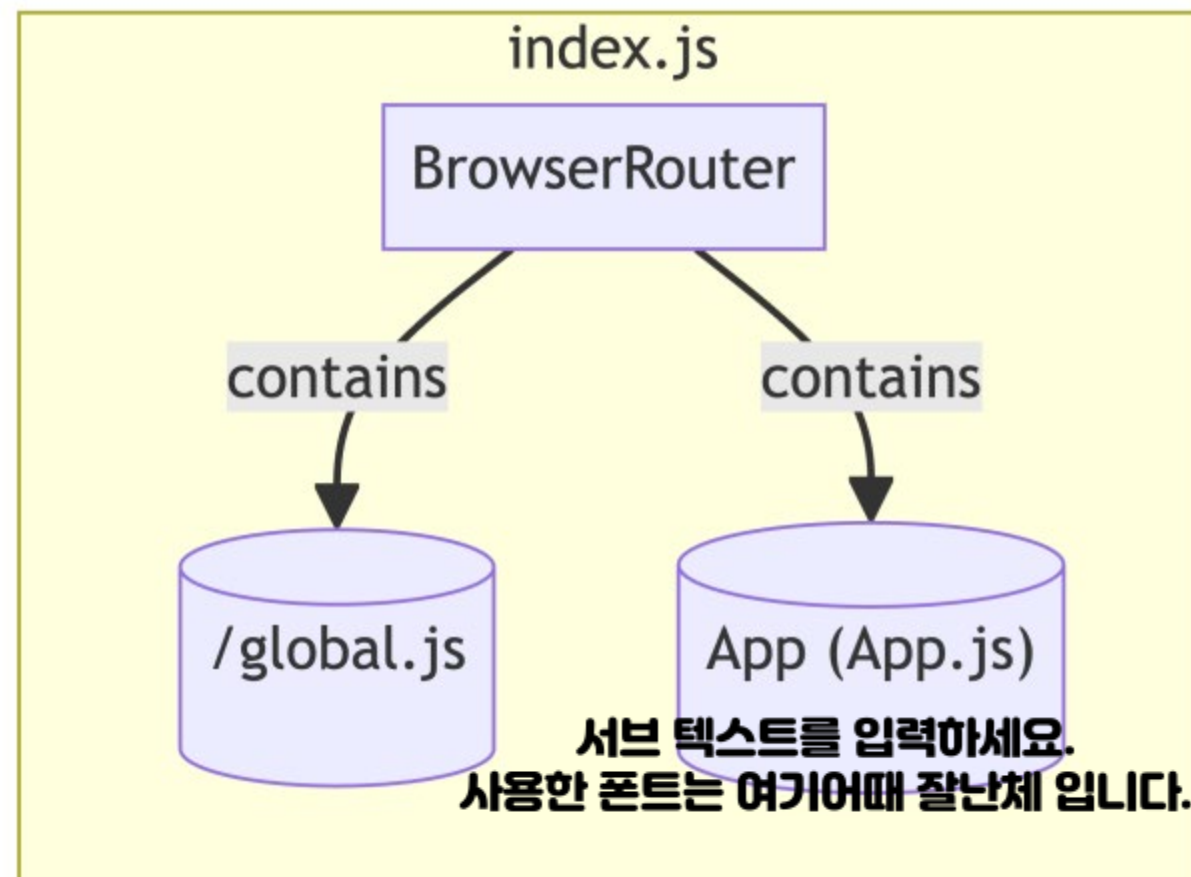


02 Design & Implementation

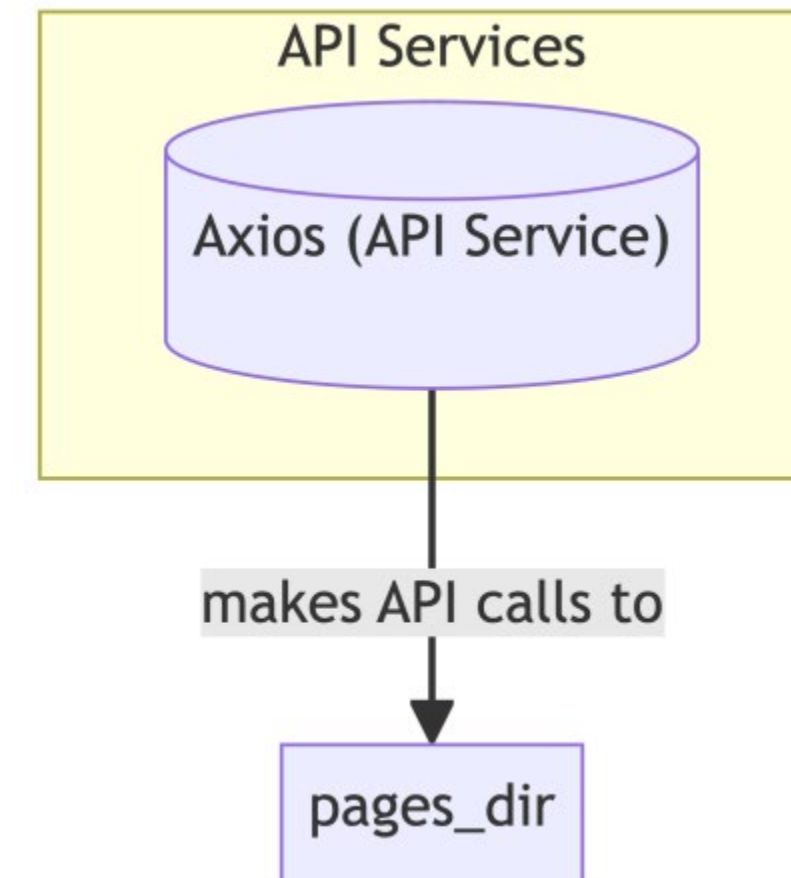
## 2.3 Implementation

# Front End

### Index and App



### Axios Routing



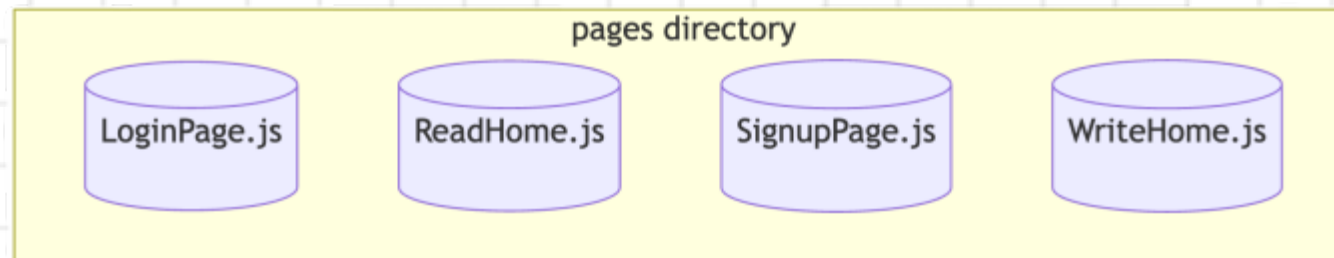


02 Design & Implementation

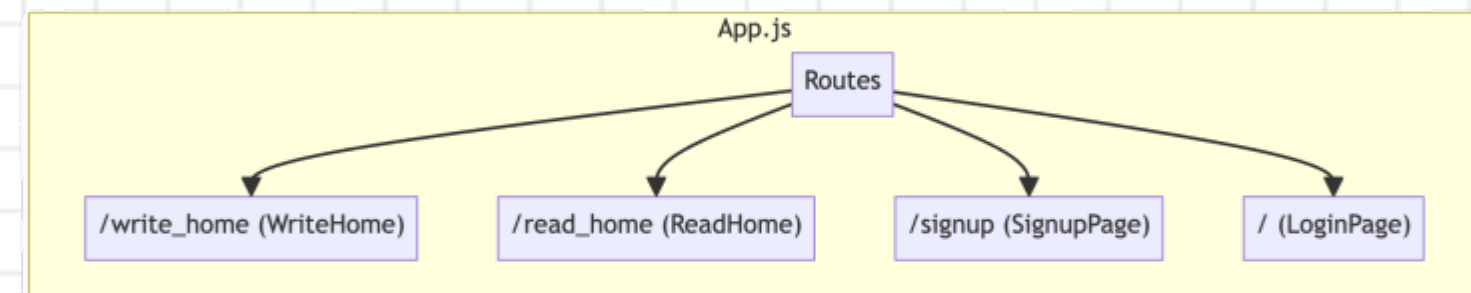
## 2.3 Implementation

# Front End

### Pages Structure



### Routing Structure





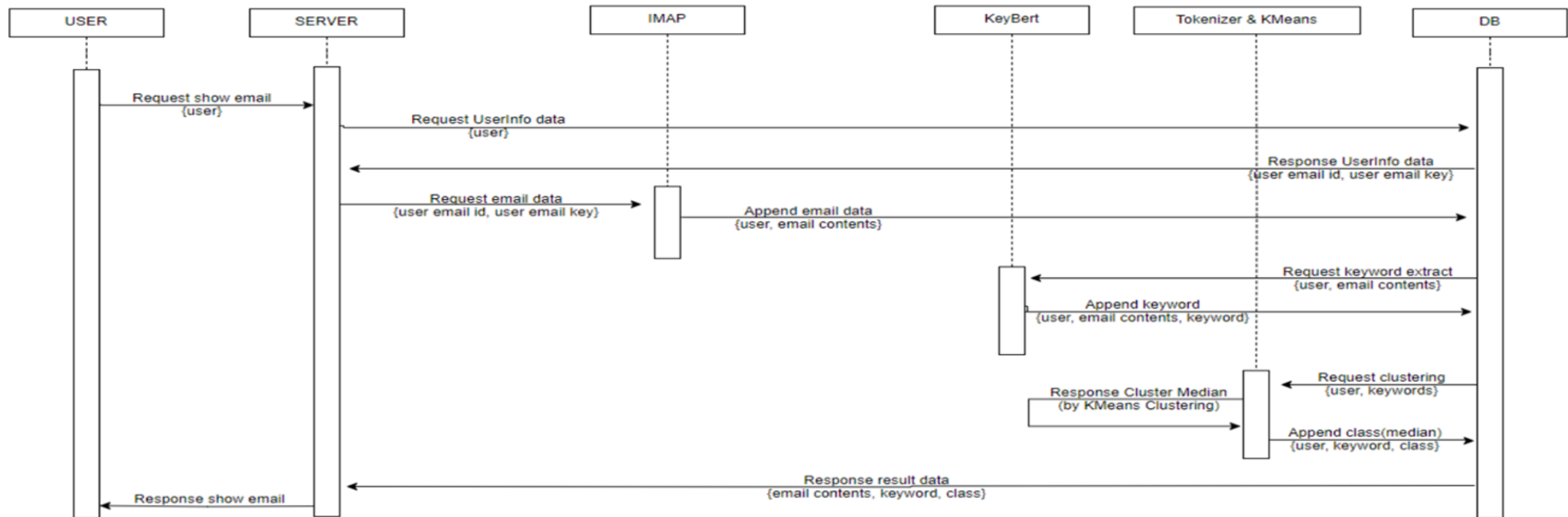


02 Design & Implementation

## 2.3 Implementation

## Back End

### Email Inquiry



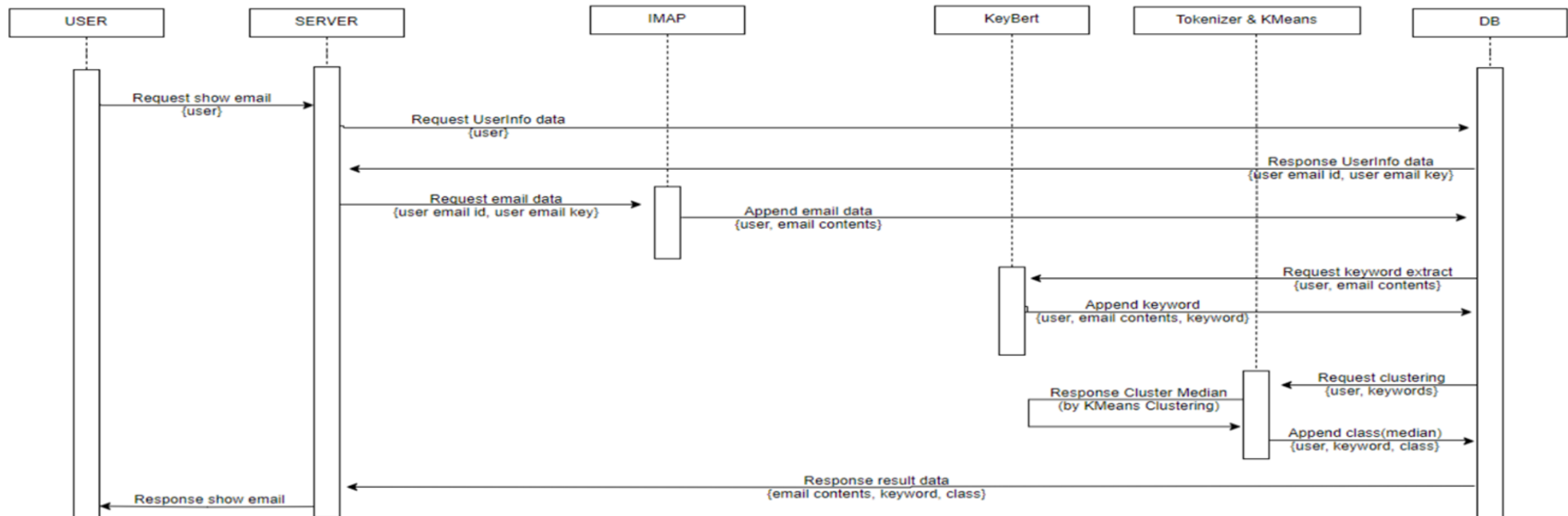


02 Design & Implementation

## 2.3 Implementation

# Back End

## Email Seding

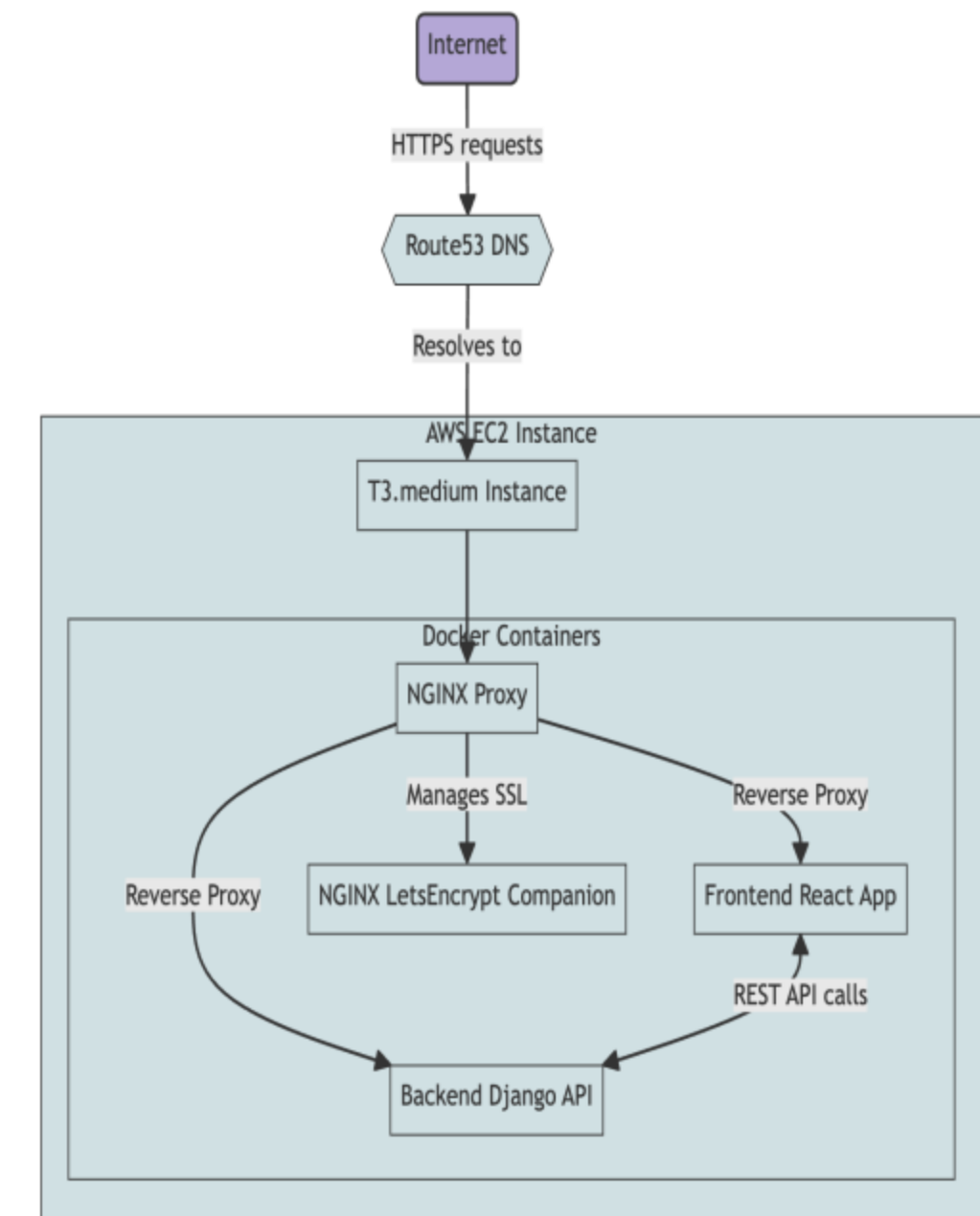
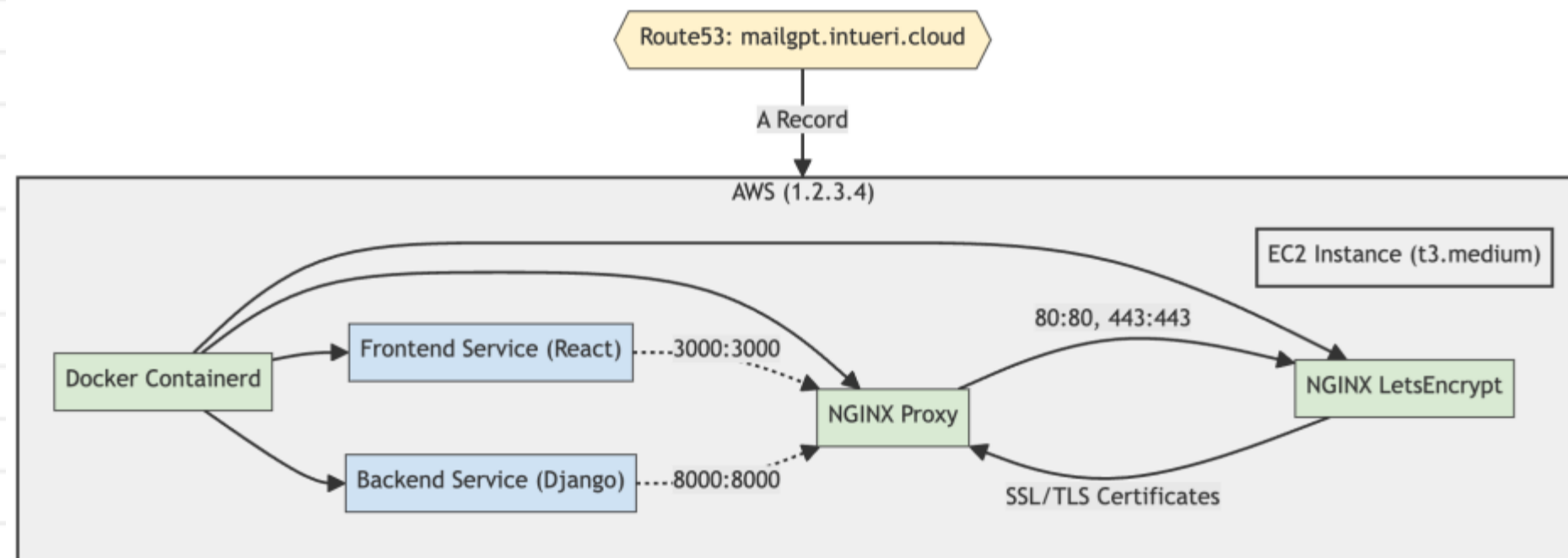






02 Design & Implementation

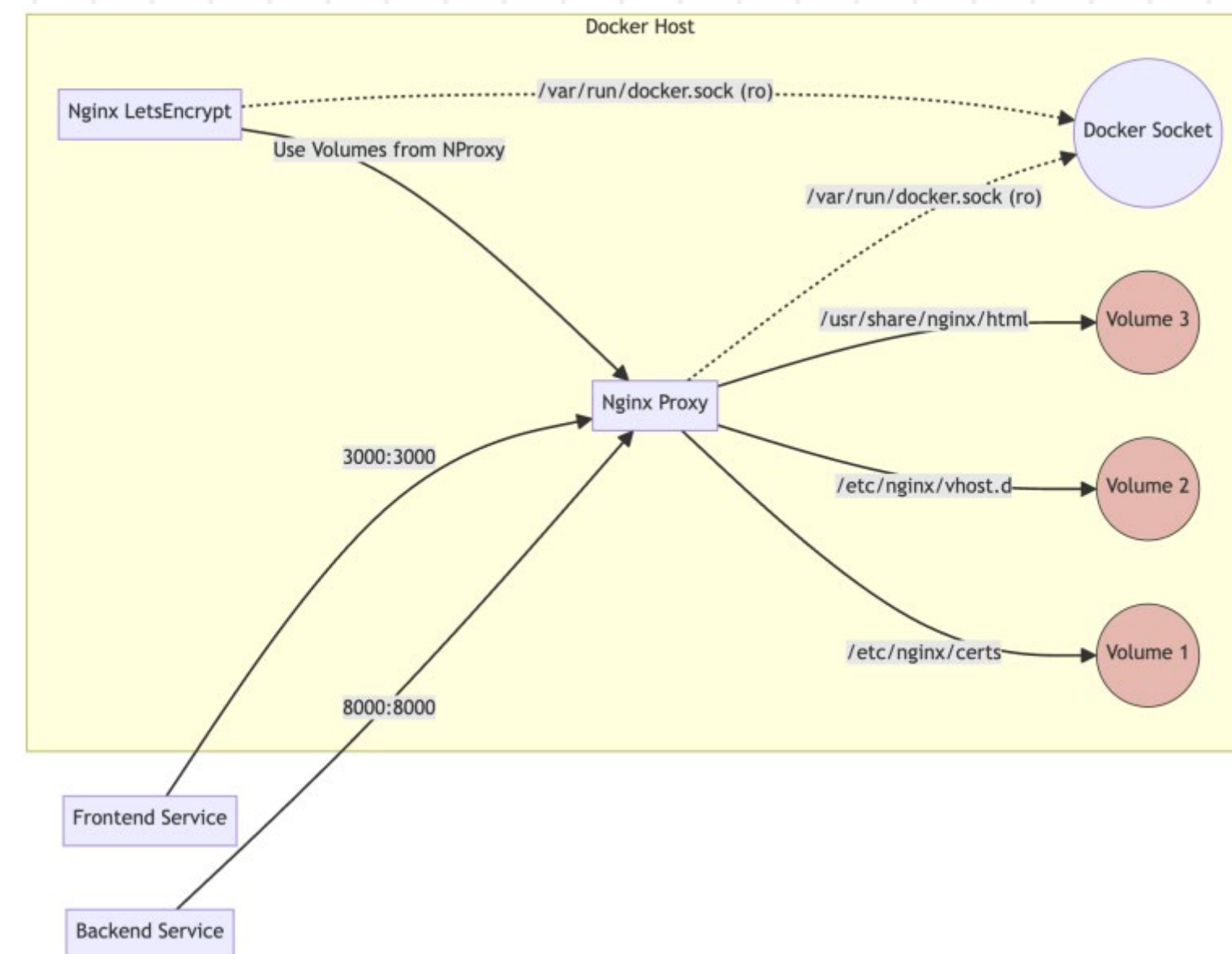
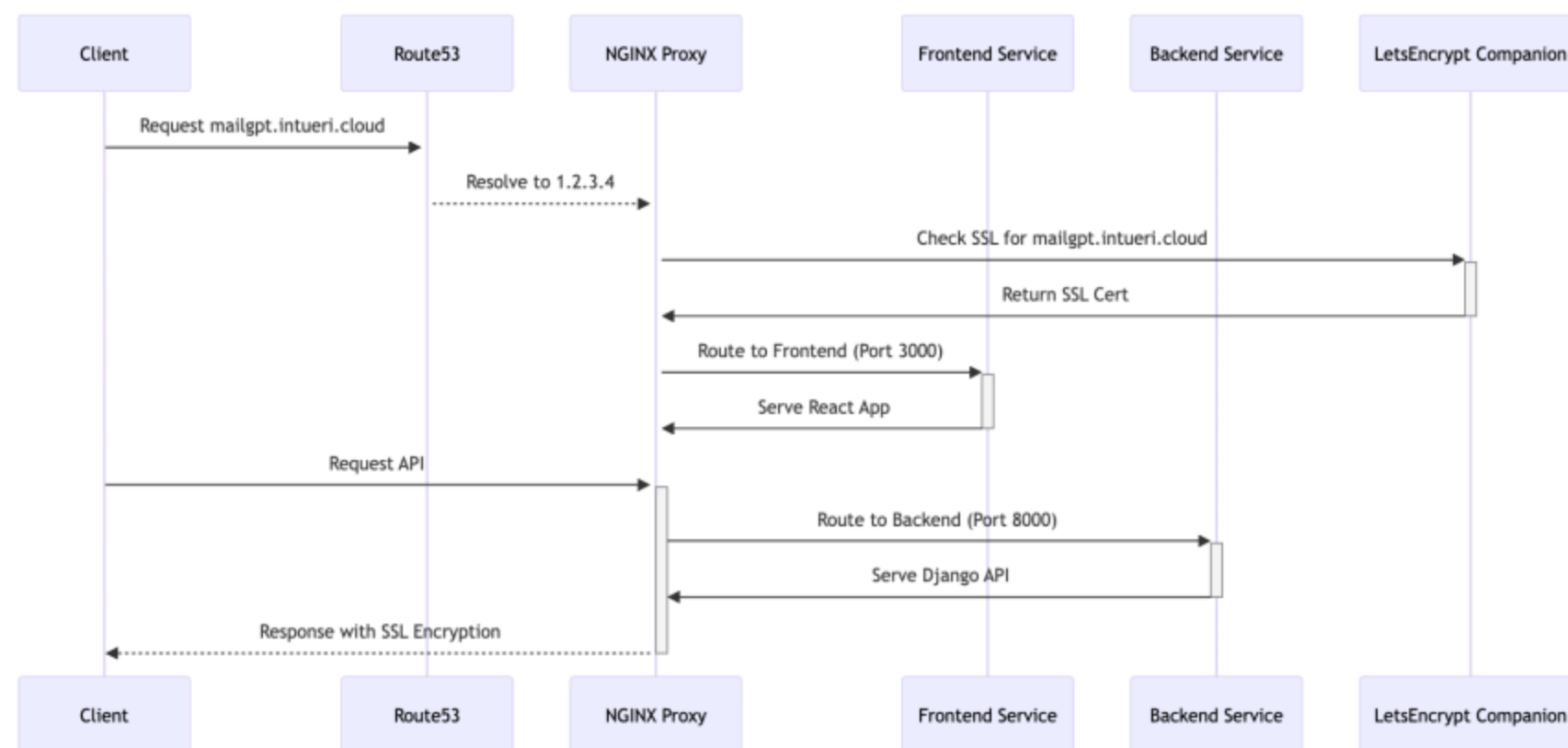
# 2.3 Implementation Infrastructure





## 02 Design & Implementation

# 2.3 Implementation Infrastructure



# 03 Challenges & Limitations



3.1 FE + BE Intagrations

3.2 UI/UX + FE Integraion

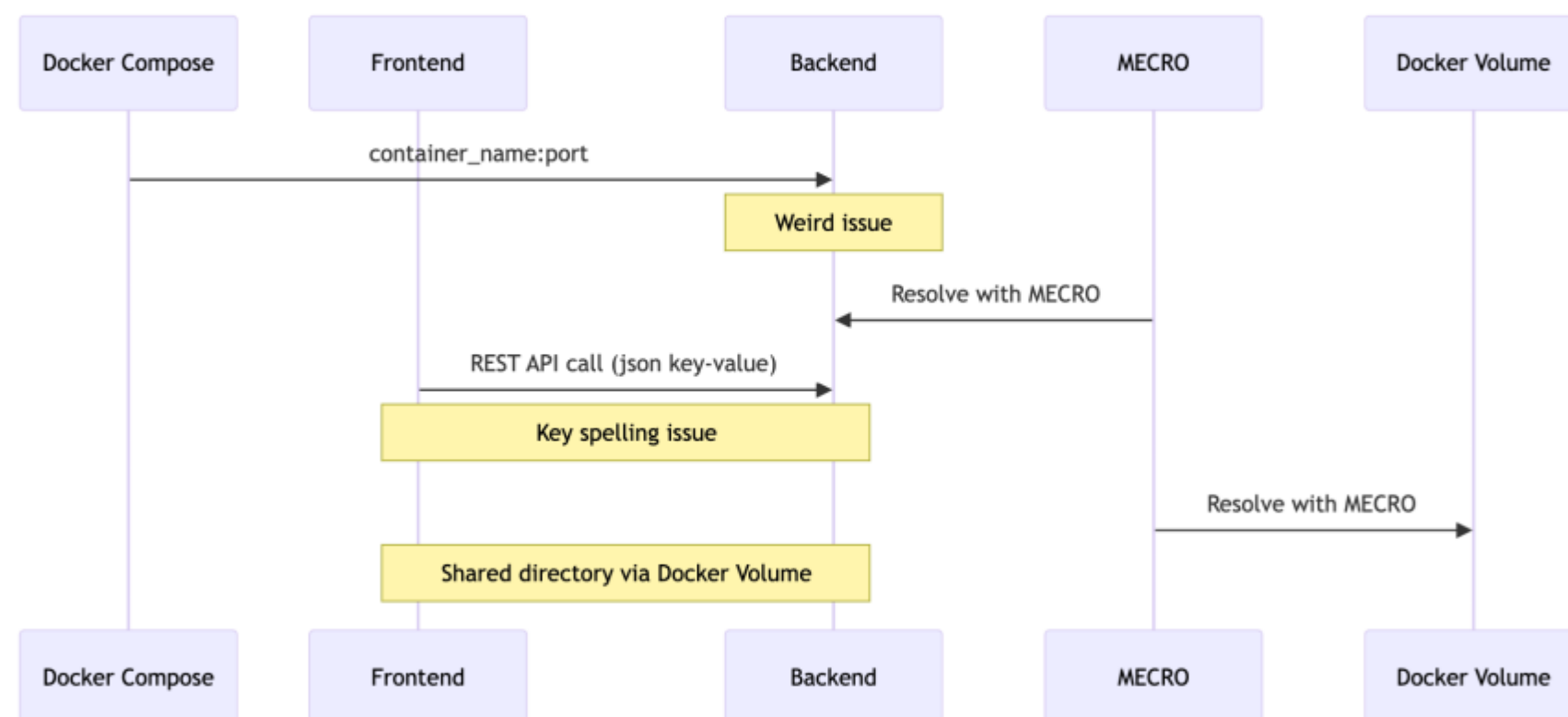
3.3 DB & Auth

3.4 SSL/TLS & Proxy



## 03 Challenges & Limitations

# 3.1 FE + BE Intagration

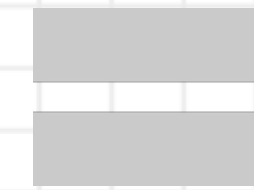
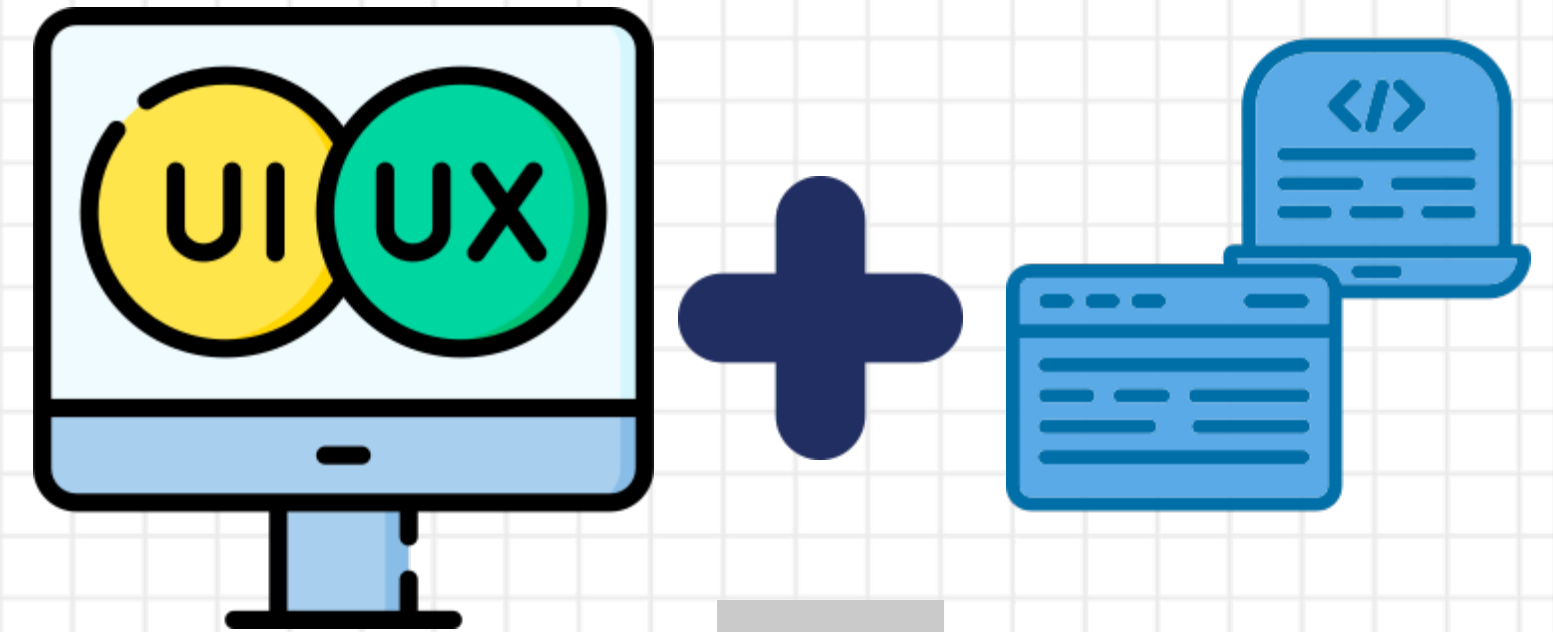
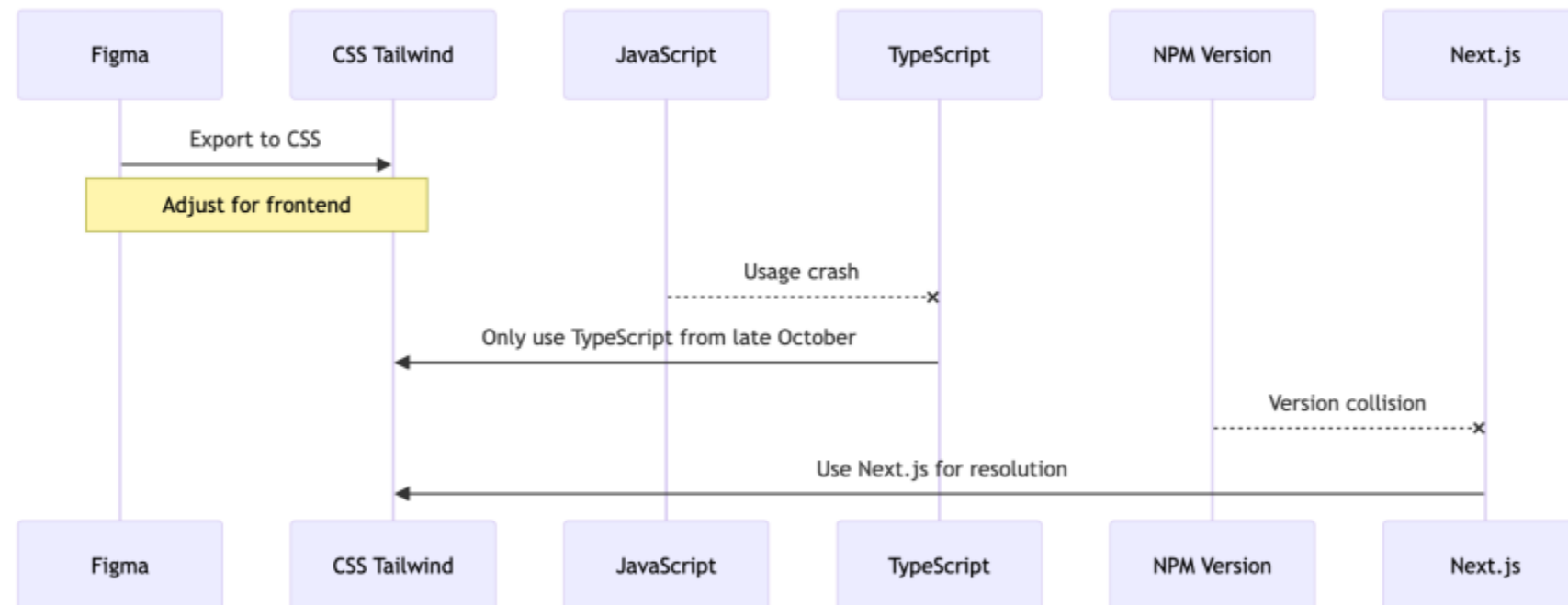


**INTEGRITY**



03 Challenges & Limitations

## 3.2 UI/UX + FE Integraion



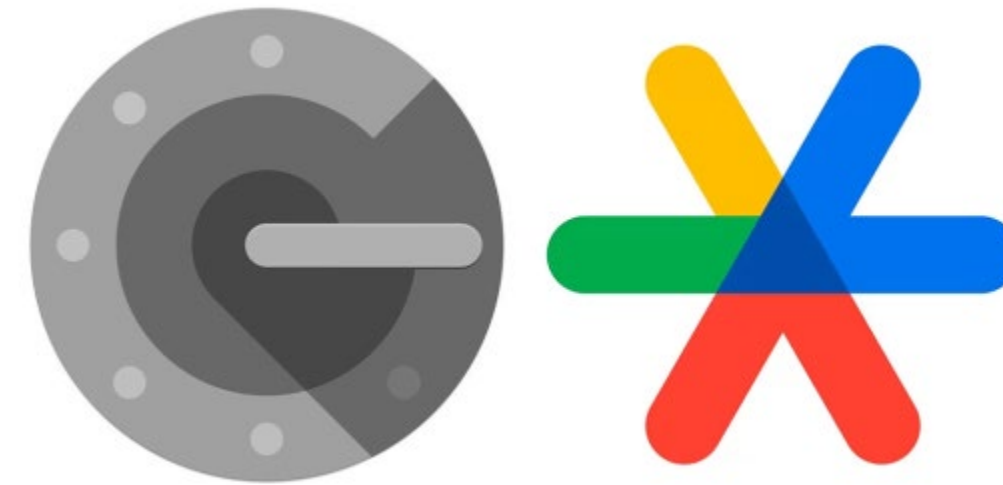
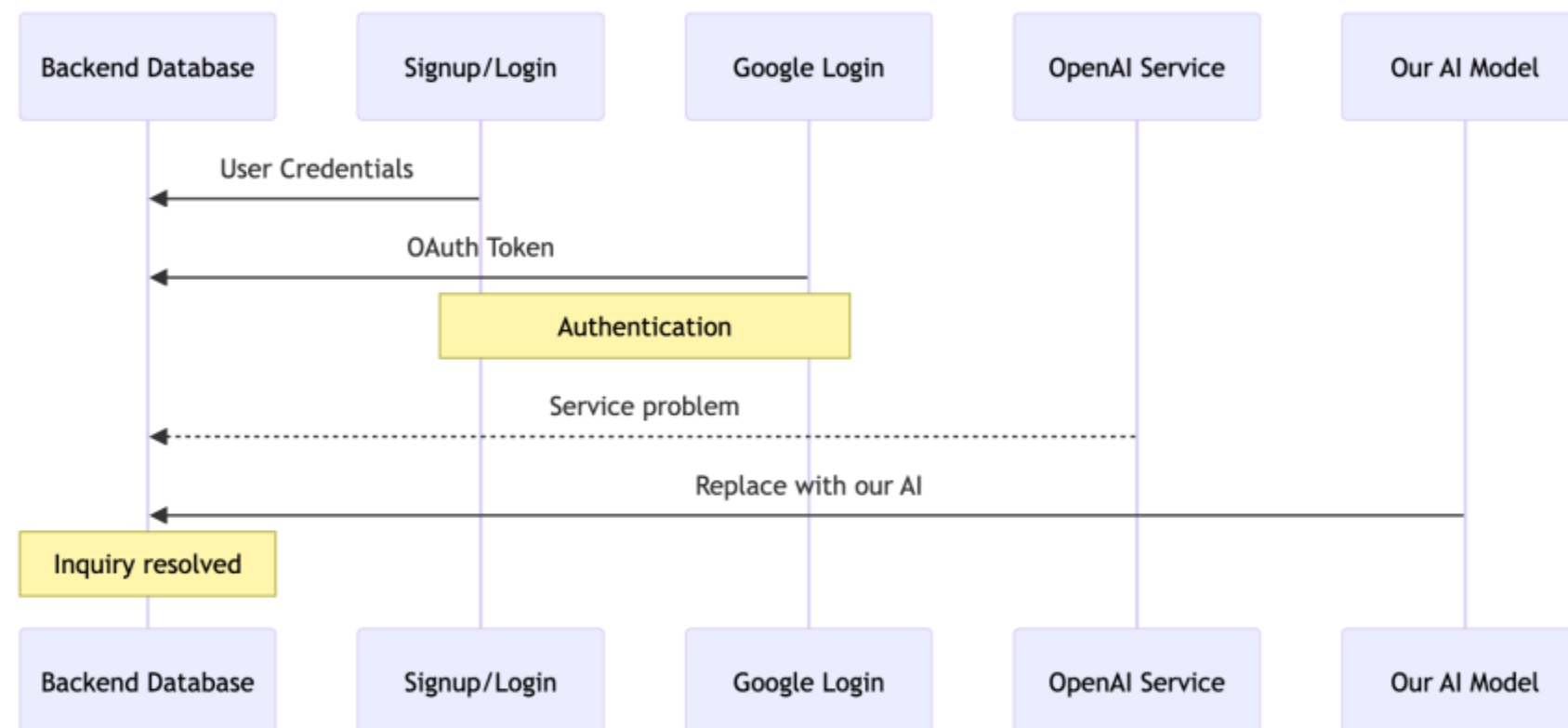
# Tailwind CSS





03 Challenges & Limitations

## 3.3 DB & Auth



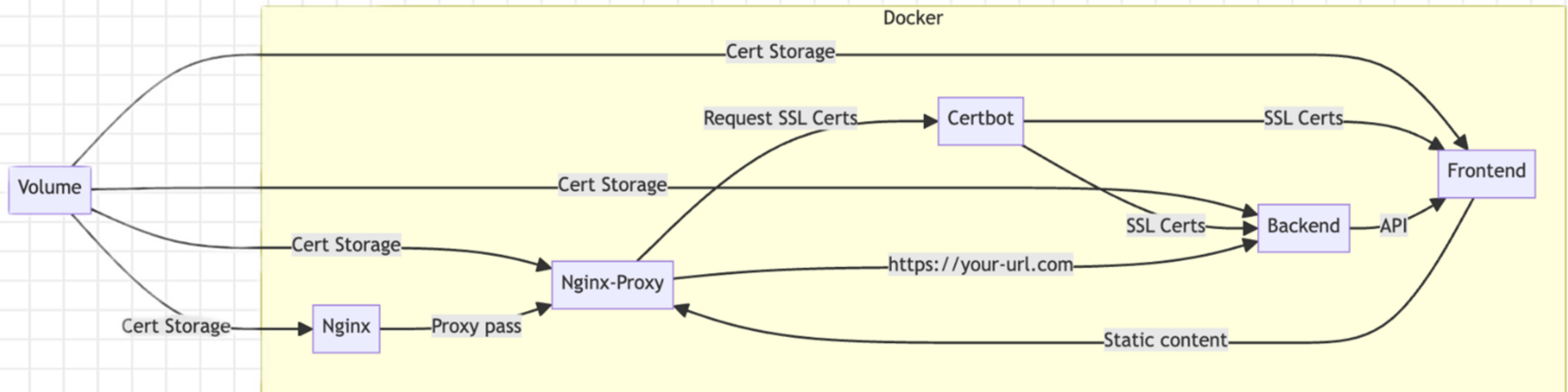
Firebase





03 Challenges & Limitations

## 3.4 SSL/TLS & Proxy



Web Server  
Admin  
Software

example.com

Put `ed98` at `https://example.com/8303`  
Sign `9cf0b331`

Let's  
Encrypt



# 04 Conclusion

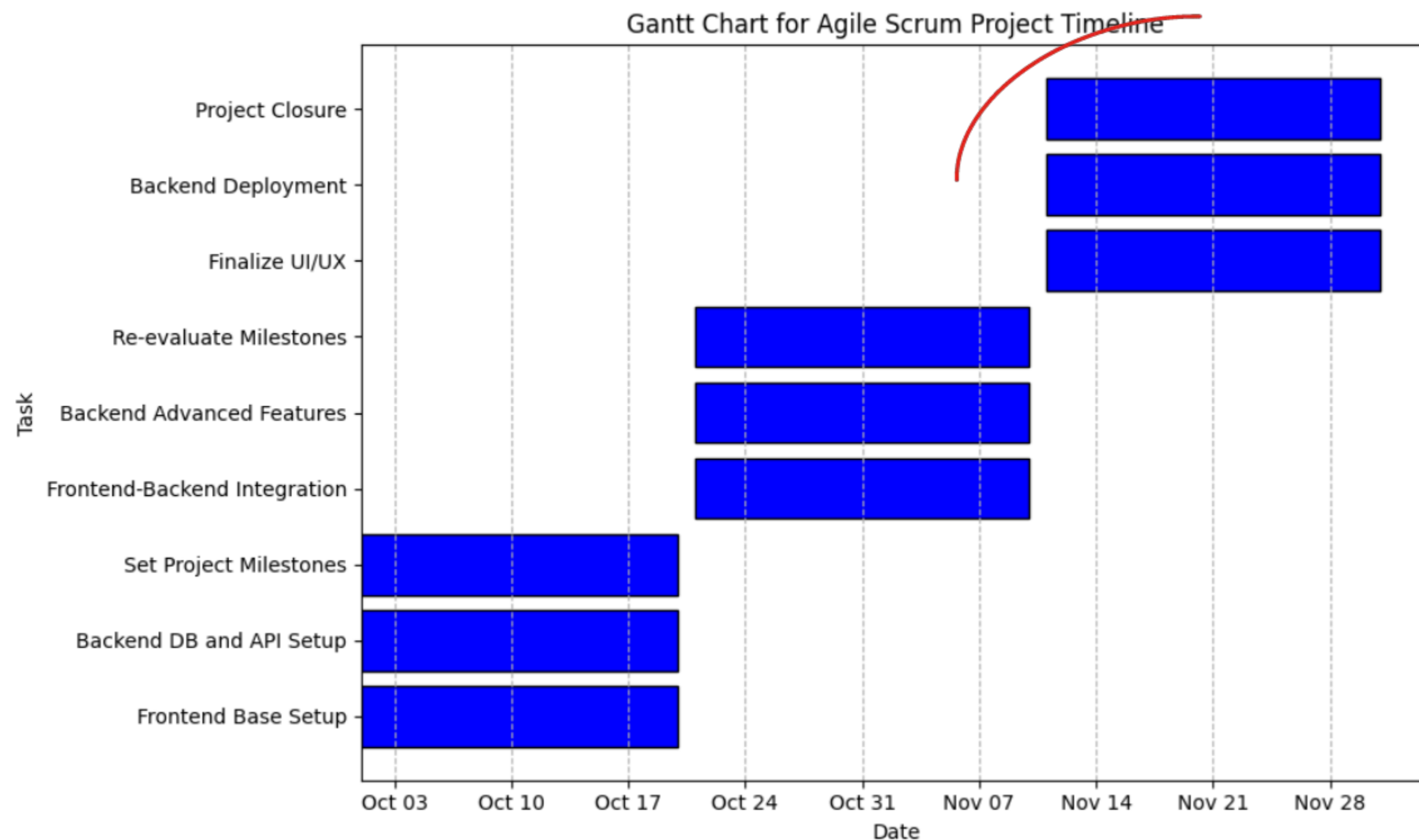


- 4.1 Further Milestone
- 4.2 Conclusion
- 4.3 Q&A



04 Conclusion

# 4.1 Further Milestone



9

**Q & A**

**Thank You**